

Title (en)

Coil spring, method of manufacturing such a spring and application to a suspension of a motor vehicle

Title (de)

Schraubenfeder, Verfahren zur Herstellung einer solchen Feder und Anwendung zu einem Aufhängungssystem für ein Fahrzeug

Title (fr)

Ressort hélicoïdal, procédé de fabrication d'un tel ressort, et application à une suspension de véhicule automobile

Publication

**EP 1191247 A1 20020327 (FR)**

Application

**EP 01402401 A 20010919**

Priority

FR 0012102 A 20000922

Abstract (en)

The spring (28) is made from a hollow tubular metal rod (38) wound in a spiral and having a flat thrust surface at one or both ends (46) made by crushing the coils of the tube at that end. Prior to winding the tube has inner and outer cross-sections of constant size, and the crushed zone is formed by the end coil of the spring, heated by electrical induction before crushing and then cooled by spraying with a coolant liquid.

Abstract (fr)

Ce ressort hélicoïdal (38) comprend un fil enroulé en hélice, dont au moins une zone d'extrémité (40, 46) délimite une surface d'appui plane par laquelle un effort de sollicitation est transmis à ce ressort. Selon l'invention, le fil enroulé en hélice est tubulaire, et la surface d'appui plane est formée par écrasement du fil. Application aux ressorts de suspension de véhicules automobiles. <IMAGE>

IPC 1-7

**F16F 1/04**; **F16F 1/12**

IPC 8 full level

**F16F 1/04** (2006.01); **F16F 1/12** (2006.01)

CPC (source: EP)

**F16F 1/043** (2013.01); **F16F 1/12** (2013.01)

Citation (applicant)

- US 1523225 A 19250113 - LUKENS ALAN N
- EP 0631919 A1 19950104 - LANGEN & SONDERMANN GMBH & CO [DE], et al
- DE 19619074 A1 19971120 - ALLEVARD FEDERN GMBH [DE]

Citation (search report)

- [YA] US 5984283 A 19991116 - TSUIKI TETSUYA [JP], et al
- [A] US 1523225 A 19250113 - LUKENS ALAN N
- [A] EP 0631919 A1 19950104 - LANGEN & SONDERMANN GMBH & CO [DE], et al
- [A] DE 19619074 A1 19971120 - ALLEVARD FEDERN GMBH [DE]
- [Y] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14 31 December 1998 (1998-12-31)

Cited by

CN104067021A; WO2013132002A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

**EP 1191247 A1 20020327**; **EP 1191247 B1 20050427**; AT E294339 T1 20050515; DE 60110337 D1 20050602; DE 60110337 T2 20060126; ES 2240372 T3 20051016; FR 2814518 A1 20020329; FR 2814518 B1 20030411

DOCDB simple family (application)

**EP 01402401 A 20010919**; AT 01402401 T 20010919; DE 60110337 T 20010919; ES 01402401 T 20010919; FR 0012102 A 20000922